

### **REMARKS**

Applicants thank the Examiner for consideration given the present application. Claims 1-27 are currently pending. Claims 1-24 have been amended and claims 25 -27 have been added through this Reply. Claims 1, 2, 13, 14, 23 and 25-27 are independent. Applicants respectfully request reconsideration of the rejected claims in light of the amendment and remarks presented herein, and earnestly seek timely allowance of all pending claims.

#### **The Claims Define Patentable Subject Matter**

The Office Action rejects claims 1-4, 6-8 and 11-24 under 35 U.S.C. §103(a) over U.S. Patent No. 6,869,892 to Suzuki et al. (Suzuki) in view of U.S. Patent No. 6,074,486 to Yang et al. (Yang); rejects claim 9 under 35 U.S.C. §103(a) over Suzuki in view of Yang; and rejects claims 5 and 10 under 35 U.S.C. §103(a) over Suzuki in view of Yang. These rejections are rendered moot.

Claims 1-9, 13-22, 25 and 26 are supported by Japanese Patent Application No. 2003-301982 filed on August 26, 2003, which is earlier than the January 30, 2004 filing date of Suzuki. A certified English language translation of the priority document is provided to claim priority of the Japanese Patent Application. Thus, Suzuki is not prior art.

Dependent claim 10 is also at least allowable by virtue of its dependence on corresponding allowable independent claim 1 or 2.

Accordingly, withdrawal of the rejections of claims 1-10 and 13-22 is respectfully requested.

Independent claim 11 recites, *inter alia*, “supplying mixture gas of oxygen-containing gas and hydrogen-containing gas mixed outside of said processing chamber from one end side of a substrate arrangement region, in which said plurality of substrates in said processing chamber are arranged, to flow the mixture gas of the oxygen-containing gas and hydrogen-containing gas toward another end side of the substrate arrangement region and supplying said hydrogen-

containing gas from at least one half-way location of a region corresponding to the substrate arrangement region in said processing chamber to flow the hydrogen-containing gas toward the another end side of the substrate arrangement region, thereby allowing said oxygen-containing gas and said hydrogen-containing gas to react with each other in said processing chamber to process said plurality of substrates by oxidation.” Independent claim 23 recites, *inter alia*, “a mixing portion disposed between said processing chamber and said oxygen-containing gas supply line and said first hydrogen-containing gas supply line, said mixing portion mixing said oxygen-containing gas and said hydrogen-containing gas respectively supplied from said oxygen-containing gas supply line and said first hydrogen-containing gas supply line and said mixing portion supplying a mixture gas of said oxygen-containing gas and said hydrogen-containing gas mixed in the mixing portion from one end side of the substrate arrangement region.” The applied references fail to teach or suggest recited features of independent claims 11 and 23.

Suzuki discloses an oxidation system 20 that includes a cylindrical processing vessel 22 supported by a tubular manifold 34. A wafer boat 36 can be vertically taken in and out of a lower part of the manifold 34. See Fig. 1 and col. 6, lines 16-24 of Suzuki. The manifold 34 has an oxidative gas supplying means 60 for supplying an oxidative gas to the processing vessel 22, and a reductive gas supply means 62 for supplying a reductive gas to the processing vessel and another reductive gas supplying means 64 for additional supplying the reductive gas to the processing vessel 22. See Fig. 1 and col. 6, lines 65 through col. 7, line 15. Yang fails to cure the deficiencies of Suzuki. Thus, the applied references, alone or in combination, fail to teach or suggest the recited features of independent claims 11 and 23.

Regarding dependent claims 12 and 24, Suzuki fails to teach or suggest that the mixture gas is supplied in a shower state from the one end side of the substrate arrangement region in the processing chamber. Yang fails to cure the deficiencies of Suzuki.

For at least the reasons stated above, independent claims 11 and 23 are patentably distinct from the applied references. Dependent claims 12 and 24 are at least allowable by virtue of their dependence on corresponding allowable independent claims 11 and 23.

Accordingly, withdrawal of the rejection of the claims of 11, 12, 23 and 24 based on the applied references is respectfully requested.

**New Claims 25 -27 are Patentable**

New claims 25 -27 are added. New claims 25 -27 are patentable because they are supported by Japanese Patent Application No. 2003-301982 which the present application claims priority filed on August 23, 2003 which is earlier than the January 30, 2004 filing date of the Suzuki. As discussed above, a certified English language translation of the priority document is provided to claim priority of the Japanese Patent Application. Thus, Suzuki is not prior art.

Yang fails to teach or suggest that the oxygen-containing gas and the hydrogen containing gas are supplied from one end side of a substrate arrangement region to flow the oxygen-containing gas and the hydrogen-gas containing gas toward another end side of the substrate arrangement region, and the hydrogen-containing gas is applied from a plurality of locations of a region, which correspond to the substrate arrangement region in the processing chamber and which is in proximity to the inner wall of the processing chamber, to flow the hydrogen-containing gas toward the another end side of the substrate arrangement region as recited in independent claim 25, a first hydrogen-containing gas supply line which supplies hydrogen-containing gas from the one end side of the substrate arrangement region in said processing chamber; a second hydrogen-containing gas supply line which supplies the hydrogen-containing gas from plurality of locations of a region, which corresponds to the substrate arrangement region in the processing chamber and which is in proximity to the inner wall of the processing chamber as recited in claim 26 and supplying hydrogen-containing gas without any oxygen-containing gas from a region between the first and the second end sides corresponding to the substrate arrangement region in said processing chamber to flow the hydrogen-containing gas

toward the second end side of the substrate arrangement region, thereby allowing said oxygen-containing gas and said hydrogen-containing gas to react with each other in said processing chamber to process said plurality of substrates by oxidation as recited in claim 27. Thus, independent claims 25 -27 are patentable.

**Conclusion**

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Obert H. Chu Reg. No. 52,744 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

Dated: September 23, 2008

Respectfully submitted,

By 

Michael K. Mutter

Registration No.: 29,680

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant